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MEDICAL DISSERTATIONS,

READ BEFORE THE

Massachusetts Medical Society.

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ON THE

AND EARLY CHILDHOOD.

Read before the Massachusetts Medical Society, at their Annual Meeting, June 7, 1826.

However plausible, and at first view satisfactory, may be this explanation, it is a fact that the young of all other animals, in a natural state, are comparatively vigorous and healthy. And making every allowance for diseases incident to the hu-

man family alone, still it will be found, I apprehend, that most of the disorders of early life, and many of those which occur at a later period, derive their origin from mismanagement. And just in proportion as the laws of Nature are violated, and her plain and salutary requisitions neglected or disregarded, is this peculiar "irritability and sensibility" fatally developed. It has been justly remarked "that when mismanagement in infancy does not actually destroy life, it often very essentially impairs the health,—the foundation of a future good or bad constitution being frequently laid at this period."

The prophylactic management of infancy and early childhood, consists in a proper regulation of the *dress, diet, and exercise*.

The skin from its continuous and relative sympathies, may be considered a vital organ. Reflected, it constitutes the mucous membranes; which accounts for its important connexion with the respiratory and digestive functions. And through the medium of the nerves with which it is so largely endowed, it sympathizes relatively with all the other vital organs. As we advance in age the skin becomes more and more firm—but it is not until about the thirtieth year that it acquires its greatest power of resistance to the impression of external stimuli. During this whole period, but more especially in infancy when the cutaneous

susceptibility is the strongest, in so far as the functions of the skin exert an influence on other organs important in the economy of health, an equable excitement should be preserved by a careful adaptation of the dress to the natural succession of seasons, and other causes of injurious excitement which the customs of society have so greatly multiplied.

“If during the greatest part of life the skin be so fruitful a source of disease, and the various alterations it experiences produce so frequent disorders in the internal organs, it is only owing to the varied causes of excitement to which it is every instant subjected.” Here allow me to remark that the fashionable attire of the present day gives to the children of opulence no advantage over the “shreds and patches” of poverty. It affords but a scanty protection in their frequent transitions from more than tropical heat to hyperborean cold. It is neither a security against the diseases consequent upon exposure to alternations of heat and cold; nor the still more fatal ones which are the effect in a great measure, of the enervating heats of summer upon the functions of the skin. Unguarded exposure to cold when the body is heated—or to heat when it is chilled—induce diseases with which we all are familiar, and so speedily as to leave no room to doubt their cause. The cholera of India, on the other hand,

to which our infantile diseases of the summer months, usually attributed to irregularities and indiscretions in diet, are somewhat analogous, affords the strongest exemplification of the effect of continued heat on the functions of the skin and internal organs sympathizing with it. The European who retreats from the scorching rays of a tropical sun to seek repose under his net in the shade, falls a victim to disease; while the native Hindoo who toils all the day, owes his comparative immunity, not so much to a constitution framed to the climate, as to his frequent ablutions and daily inunctions of rancid oil. And though the one be a religious rite, and the other an expedient to protect him from swarms of insects, they both combine to preserve an equable excitement in the vessels of the skin. And were it not that his ingenuity has supplied this latter substitute, mosquitoes and cock-roaches would be as well entitled to his homage as the consecrated waters of the Ganges.

The sustenance of the infant for nearly the first year of its life should be drawn exclusively from its mother. This is nature's provision; and ordinarily the supply is commensurate to the demand; and for this no artificial combination is an adequate substitute. Nature, too, has wisely placed this secretion beyond the influence of ordinary indisposition; and though there are instances of

real, constitutional inability, a *mother*, generally speaking, is competent to perform the kindly offices of *nurse*. Happily our country women, with but few exceptions, have not arrived at that maximum of refinement which prompts them to alienate their children. And if there be living a female who can unnecessarily and most unnaturally resolve to relinquish the important duties, and to forego the endearing pleasures of a mother, and to abandon her helpless offspring to the carelessness and cupidity of an hireling,

“Hear, nature, hear! suspend thy purpose, if
Thou did'st intend to make this creature fruitful.
Into her womb convey sterility!
Dry up in her the organs of increase,
And from her derogate body never spring
A babe to honor her.”

At the period of ablactation it is only necessary to avoid great and sudden changes in diet. The digestion of the child is rapid, and its calls for food consequently frequent; and so it be but plain and bland, indulgence may be safely allowed.—Nature unhackneyed seldom errs in her demands; and if the appetite is not pampered, no limits need be set to time or quantity in its gratification.—Contrast, now, these plain and obviously natural rules with the practices which too generally prevail in the management of infancy. ‘*Sanis omnia sana,*’ would seem to be an adopted axiom; and a

most pernicious one it is. From the moment of birth up to the period we are considering, the wailings of infancy are quieted with diffusibles—its clamors are hushed by epicurean indulgencies—and its very smiles are purchased by an enormous tax to the confectioner. Hence follows a long train of functional disorders of the digestive organs, by which, if life is not destroyed, the growth is checked; the constitution is impaired; and very frequently structural disease is superinduced which no art afterwards can remedy; and hence, too, by reverse sympathy, springs a tribe of eruptive diseases so loathsome and so common to early life.

Nor do the evils of early mismanagement in relation to diet stop here. The moralist would follow up consequences to a later period, and tell you that tastes and appetites, vitiated and depraved in the cradle, go on step by step, from year to year, until they terminate, at length, in that most odious, degrading and disgusting of all vices,—in our country “the pestilence that walketh by noonday”—beastly inebriety.

The health of the infant depends on the equable evolution and perfect integrity of its several organs—to which exercise of body, both passive and active, greatly conduces. In the first months of existence it must necessarily be passive; but when locomotion is acquired it may well be left

to the buoyancy of infant feeling. The gambols of childhood should be rarely repressed—and when properly clothed and properly fed, it will brave with comparative impunity the most inclement seasons. When situation or circumstances forbid the indulgence of active exercises abroad, the shower-bath, the bathing-tub, and the flesh-brush at home will almost compensate for the deprivation.

“Certain physical and moral differences that present themselves in man, and which depend on the diversity of the proportions and connexion between the parts forming their organization, as well as the different degrees of energy relative to certain organs,” have been fancifully named by Physiologists—Temperaments. A knowledge of the differences or “peculiar dispositions of the body with which we are *born*, is of little practical value; as by education, manner of living, climate, or acquired habits, they become altered or totally changed.” “Man never remains in a state of nature, being acted on by every surrounding body; his physical qualities, therefore, if observed at distant periods of life, present as many differences as his moral or intellectual character.”

By another physiological subtlety, this generic name, which is made to imply a constitutional liability to a certain *cast* of diseases, has undergone a subdivision, and hereditary predisposition

to disease from peculiar individual organization is called Idiosyncrasy. The opinion I am aware very generally obtains that diseases are propagated from parents to their offspring; and to a certain extent it cannot, perhaps, be denied. But reasons enough do exist to justify a suspicion at least that idiosyncrasy is often but another name for *habit*.

The arthritic entails the gout upon his heir—but it may be by bequeathing with his wealth the very errors of physical education that engendered the disease in his own person. There is a concurrence, too, of all authority in the remark, that, now and then, a generation springs up among the most predisposed that enjoys a perfect immunity from disease; and which might be traced, possibly, either to the wisdom that devised or the necessity which enforced an improvement in physical education.

The fearful increase of pulmonary consumption, a disease which Pathologists have identified with scrophula, gives to this subject additional interest. I speak not of diseases often confounded with consumption, whose cure has inspired the ignorant with confidence and given to a thousand nostrums an ephemeral celebrity;—but whoever has watched the insidious approach of tubercular phthisis to its developement upon the lungs—and who of you has not?—and has experienced, too,

the utter hopelessness and insufficiency of all means afterwards—I will not say to a cure, but to arrest or even retard its downward progress—will unite in the opinion that if a remedy is yet to be found it must be sought in prevention.

A history of this disease with the various and opposite modes of treatment which have at different times been adopted, is foreign to my purpose. It is enough that all have resulted in disappointment and discomfiture; and in the strong language of a frank and fearless writer, “let us no longer deceive mankind—let us candidly acknowledge that there are diseases which cannot be cured. Were this generous confession universally made, the world would more earnestly adopt preventive measures. So long as we promulgate opposite doctrines we are no better than empirics; we are destitute of honor—of humanity.”

In latitudes of equable temperature, whether of heat or cold, consumption is almost unknown. It is equally a stranger to the mild skies of Italy, and to the perpetual snows and frosts of the Arctic regions; but in our variable climate it is a monster, whose terrific strides are yet unchecked, and who riots unrestrained in our best blood.

Independently of hereditary predisposition, the same causes which at one period of life produce scrophula, are the proximate ones of consumption at another. Among the most prominent of these

is unguarded exposure to the vicissitudes of the seasons ; to which may be added dietetic mismanagement. The first effects are—in infancy, functional disorders of the digestive organs—at a later period, enlargement of the glands—and at a still later, when one train of sympathies have become blunted and new ones excited, tubercular phthisis, which is indeed but the sequel of scrophula—its last fatal stage—the assurance that the foundations of life are irremediably sapped.

Eruptions, suddenly repelled, are not an infrequent cause of consumption ; and of the vast multitude and variety of remedial means which have, at different times, engaged the attention of the medical world, all are buried with the Capulets, except they be such only as tend to procure and perpetuate an equable excitement of the vessels of the skin, and a healthy performance of the functions of the digestive organs.

Taking into view then, the latitudes in which alone this disease so fatally prevails—its causes—the inadequacy to a cure of all means yet employed—its connexion with scrophula, and its almost certain incurability—instead of searching farther the face of the earth and exploring its very bowels, for remedies which will probably never be found, or instituting anew experiments which will but too surely end in bitter disappointment—is it not time, and does not humanity require it, that the

attention be given earnestly to preventive measures? And these, permit me to suggest, consist in an early adoption of the prophylactic management to which I have taken the liberty to invite your attention.

"*Mens sana in corpore sano*," is not an unmeaning apothegm. It is not my intention to agitate the question of the "mysterious incomprehensible union of mind and matter," nor whether the quantum of intellectual power depends on the length of the facial angle, or a protuberance, more or less, of the skull. I leave the discussion of these questions to Theologists and Craniologists. It is sufficient for my purpose that the physical and intellectual man are intimately united; that they mutually act and react on one another. From its first dawnings in infancy the mind is gradually unfolded as the physical organs are developed. "It grows with our growth, and strengthens with our strength." A disturbance of the functions of the body deranges the faculties of the mind;* and so far as we know, the decay and death of the one, is the extinction of the other. Do not misunderstand me—I speak with reference to human life; and I would not shake the hopes which spring from a conviction of the soul's immortality. On

* The humorous author of *Tristram Shandy*, has likened the connexion of soul and body, "to a jerkin and a jerkin's lining—rumple one, and you rumple the other."

the contrary, by physical culture and discipline, I would give to the mind augmented power and a wider range; and thereby not only fit it the better for the great and varied demands of this life, but prepare it, perhaps, for higher and nobler enjoyment in another.

Every departure from health is marked by a proportionate affection of mind. Acute diseases suddenly paralyze the most gigantic powers. It is recorded of one renowned for valor in the field, and wisdom in the senate, and eloquence in the forum—of one “who could employ, at the same time, his ears to listen, his eyes to read, his hands to write, and his mind to dictate”—who in the turmoil of a camp found time to compose his volume of commentaries, “which has always been admired for the elegance as well as correctness of its style,” that he

“Had a fever when he was in Spain,
And when the fit was on him,
That tongue of his that bade the Romans
Mark him and write his speeches in their books,
Alas! it cried, ‘*Give me some drink Titinius,*’
As a sick girl.”

Mental alienations of every shade, from lowness of spirits to despondency and madness, are but so many symptoms of physical disease, which has acquired, by a ready process of medical amalgamation, the indiscriminate appellation of chronic.

Of this numerous class of diseases, by far the greater proportion derive their origin from some error in physical management; and our boasted improvements in this department of medicine, great as they really are, do not consist so much in researches and speculations which have led to the discovery and employment of *new medicines*, as to the adoption of more *correct principles*, and the rigid enforcement of a better *physical* and *moral* treatment.

It were a curious and interesting inquiry how far the stormy and corroding passions, which disturb domestic tranquillity, disquiet neighborhoods, and sometimes convulse nations, might be traced to the operations of physical disease.

Peter the hermit, who incited the powers of Europe to the bootless attempt to plant the standard of the cross, through *slaughter* and *blood*, on the empire of the crescent, was "mad, at least, north, north-west;" and his fanaticism, I doubt not, would have yielded readily to hellebore and a straight-jacket.

Nor would it be difficult, I conceive, to account for the astonishing changes in individual character on the hypothesis of deranged physical organization. Who would recognise in the exiled driveller of St. Helena that *master spirit*, who but a few months before led the Imperial eagles of France, through every obstacle, into the very heart of the

Russian empire? And may not his cowardly abandonment of the half-famished remnant of his troops—his indecision at Waterloo—and the subsequent surrender of his person to his most implacable foe, be attributed to a *spirit broken down* by that cruel disease which ultimately terminated his life?

Examples are not wanting to shew that if the mind is not the offspring of physical organization it often derives from it the bias and direction of its powers. The history of the illiterate, demi-savage of Sweden, whose vast projects were equalled only by the extraordinary ability with which he executed them—one whom no labors could tire and no dangers appal—whose whole soul was engrossed by a single passion—and who in the prosecution of his mad schemes of conquest regarded with equal indifference the robe of the grand Vizier, and the thunder of his master's cannon—affords a strong illustration of the influence which an '*iron body*' exerts over the energies of the mind.*

But military prowess and audacious courage are not the only fruits of the rigid fibre of health. Imagination has soared to its highest flights; and the richest inspirations of poetry and song have been caught in the school where Cincinnatus

* If it be said that Charles XII. was a madman, it will not be denied that he evinced a constancy—a "method in his madness," which might shame the sanity of later times.

learned the art of war. And for the most important discoveries in science, and most valuable improvements in the arts, we are indebted, not to the starts of a sickly or precocious intellect, but to the steady, persevering industry of hardy, plodding genius. In our own profession, the unparalleled labors of one man are a proud proof of how much may be accomplished with few advantages but native vigor and untiring zeal; and how justly have his discoveries and improvements in the medical art, immortalized the name of JOHN HUNTER.

There was much of wisdom and forecast in the decision of that monarch who made the possession of *good health* an indispensable prerequisite to a participation in his councils.

You will not understand me to intimate that debility of body necessarily implies hebetude of mind; on the contrary, by strong voluntary effort, the spirit of the invalid will, now and then, "burst its cerements" with overwhelming power; but the exertion is certain to be succeeded by a most painful collapse, and the "crazy tenement" invariably demands repose to rally for every succeeding mental effort—and if, through the clouds of disease which perpetually overhang it, the mind can occasionally emit a *brilliant spark*, what think you would have been its *steady blaze*, sustained and invigorated in its exertions by sturdy health?

Unhappily, for want of physical energy, the mind

is too often goaded into exercise by unnatural and deadly substitutes. "Drink gin," said one who has been called the first poet of his age, "it is the source of all my inspiration." And I ask you—do not his productions, *sometimes*, smack *strongly* of the *spirit* that inspired them?

Physical culture is to the body what moral culture is to the mind. At no very distant period—and perhaps within the recollection of some of you—the elements of an early education were derived from the study of the Bible and the Assembly's Catechism. The philosophy of the human mind is now better understood; and instead of putting into the hands of lisping infancy a volume which the most mature minds have failed to reconcile—or another which sets explanation at defiance altogether—the gradually unfolding powers of the mind are fed, from time to time, with the kind of aliment best adapted to their capacity for intellectual assimilation.* The mind's dependence, too, on a healthy physical organization, is beginning to be more justly appreciated; and it is not uncommon at this time to find a Gymnasium attached to our best modern literary institutions.

* The great truths and moral precepts of the Bible cannot be too early inculcated; but where so much is mysterious, and some portions so confessedly improper to be presented to the young mind—though we respect the pious motives of our Fathers,—we may be allowed to distrust their wisdom in having made it an elementary book. And is it not to be feared, moreover, that if the young are permitted to treat with rude familiarity the oracles of God, it may have an effect to lessen those emotions of deep reverence which that sacred volume ought to inspire?

To complete the reform it is necessary to carry back these principles to the nursery and the cradle, and rescue the tender period of infancy and childhood,—when body and mind may be moulded almost to the will, from the trammels of fashion and caprice—from the vulgar traditions and cabalistic charms of the ancient Sibyls. Nor does the accomplishment of this object present any insuperable difficulty. The world needs but to know the value and importance of these principles to adopt them earnestly and zealously. And information and instruction of this kind, coming from the medical man to his patrons, will not be the most likely to be disregarded or contemned.

It is, I am persuaded, from prophylactic medicine generally,—and its application to early life particularly,—“we must expect the future improvement of our profession—not from the addition of new medicines to a catalogue already too long—not from fresh accessions to that mass of clinical observations which lie unread on the shelves of our medical libraries.” And though with Paracelsus, we may not hope to train our children to triumph over death; by assiduous care and well directed efforts in physical and moral culture—by blending in their education the physical vigor of Sparta, with the intellectual refinement of Athens, we can fit them to discharge with ability the high duties, and to endure with dignity the inevitable ills, of life.

ARTICLE VI.

A DISSERTATION,

READ BEFORE THE

Massachusetts Medical Society

AT THEIR

ANNUAL MEETING, JUNE 6, 1827.

BY NATHANIEL MILLER, M.D.

GENTLEMEN,

I HAVE been much perplexed in selecting a subject of discussion for the present occasion. But anticipating that something in relation to Surgery might be expected, and always happy to gratify the wishes of this society, I have taken a branch of that noble art for a few practical and experimental remarks.

It is, however, very difficult to find a distinct topic, which has not been thoroughly investigated, described and treated with accuracy by the most eminent, scientific and practical surgeons. I have feared that it might be considered presumption for

one who has enjoyed only the comparatively few anatomical facilities which the interior affords, to attempt to throw any additional light upon subjects which have received the minute attention of so many learned and practical minds.

I had contemplated confining myself to some practical remarks upon *the nice and beautiful operation for the cataract*. This subject has been very minutely investigated by eminent men, who have endeavoured to point out the best method of restoring sight to the unfortunate sufferers from this complaint. Yet this very important branch of the surgical art is still enveloped in darkness and great uncertainty; and the young and inexperienced practitioner is left to adopt that mode, which his own discretion, or that of his capricious instructor, may dictate.

By one, we are informed that removing the opaque lens wholly from the eye, through the pupil, is the best method of relieving the difficulty. Another, with perhaps equal experience and sincerity, will tell you that pressing down the lens from its nidus is the better mode; whilst a third asserts, with unbounded confidence, that only *poking* and lacerating the sight of the eye is the most humane and successful—thus leaving this delicate organ, with the vague expectation, that the inherent powers of kind nature will lend their aid, to give success to the uncertain procedure.

I was formerly much engaged in the operation for Cataract. In May and June 1798, I operated on twenty-one eyes *by extraction*. All received sight, save one, in the course of three and six weeks. As far as our present knowledge extends, I am decidedly in favor of this mode of operating. I presume, however, that I should gain but few proselytes to my belief among those who have commenced practise, and made themselves familiar with other methods. The assurance which long experience has furnished me, might be imputed to my peculiar prejudices; and to that unfounded preference, which often arises from the long and exclusive practise of any particular method of treatment. I therefore leave this subject of inquiry, being well assured that, at no distant period, a mode of operating, different from any now in use, will be the received one, embracing more the objects of the operation without its present difficulties; and that the result will be attended by less pain and far more success.

The subsequent remarks will be confined to the principal objects of this discourse, viz. *to illustrate the importance, and direct the manner of detecting deep seated matter.*

As far as I have been acquainted with surgery, a knowledge of detecting deep seated matter, concealed in various parts of the body, whether in tumours, swellings, or otherwise, is of the first impor-

tance ; nay, the very first lesson to be taught, and understood, in our profession.

A great proportion of the strictly surgical cases presented to us, either for advice or treatment, involve, in fact, this question of matter ; and a right understanding of this directs the prognosis and cure. A knowledge of this subject lays the foundation of a practice, which, in a multitude of instances, will alone guide you, in safety, to the restoration of your patient.

The labours of Benjamin Bell (more, perhaps, than those of any other man) have been the means of exploding many of the barbarous practices formerly in vogue in this country. Speaking, in his system of surgery, upon collections of matter, he says, "this is a circumstance of much importance in practice; and deserves, it may be remembered, more attention than is commonly given to it. In no part of a surgeon's employment, is experience in former similar cases, of more use to him than in the present ; and however simple it may appear, yet nothing, it is certain, more readily distinguishes a man of observation and extensive practice, than his being able easily to detect deep seated matter. While nothing, on the contrary, so materially affects the character of a surgeon as his having, in such cases, given an inaccurate or unjust prognosis; for the event in disorders of this kind comes generally at last, to be clearly demonstrated to all con-

cerned." Again he says, "abscesses too, on any of the joints, or upon either of the large cavities of the breast or abdomen, and more especially when they seem to run deep, should always be opened as soon as the least fluctuation of matter is discovered."

Baron Boyer, in his able Treatise on surgical diseases, strongly admonishes to a watchful attendance on abscesses, when they are near an organ, surrounded by a great quantity of cellular substance, as the lower extremity of the rectum. If we waited to open such an abscess, for a total solution of all the inflamed parts, the intestines would become denuded to a great extent, and their union with the adjoining parts would be difficult. By their pressure sometimes on the urethra they will cause a retention of the urine and death; in parts also which are immediately concerned in the natural functions of life as in the parotids, preventing a free return of blood from the head to the heart—on the anterior part of the neck preventing respiration and deglutition, &c.

I will now, Gentlemen, briefly mention the general symptoms, as they are laid down in our standard works, and the directions therein given for detecting matter; then close with a few critical remarks, and with directions on this subject.

The directions of the authorities for the discovery of matter may be summed up in these few words;

—where there is a remission of the inflammatory action, if the tumour be soft in the middle and pointed, there is no doubt that pus is in the tumour. My object is not to dwell at all on cases of this kind, in which even a nurse or any bystander may see matter through the skin. They then go on to tell us—“if the matter is deeply seated in the interstices of the muscles, and beneath strong aponeuroses, it is then difficult to ascertain its presence; and thus it has remained a long time undiscovered.”

These are the cases to which I wish to draw your attention, and to show that under such circumstances the existence of matter may with certainty be determined. It is true that the general and local symptoms of abscesses are to be kept perfectly in view in relation to the discovery of deep seated matter. They are guides and tokens which will lead us to a strict examination of the swelling.

Since the importance of being able to detect deep seated matter is, as we have seen, so strongly inculcated, it is matter of no small astonishment that so few hints and directions have been given by gentlemen of experience and ability in this department of surgery. A volume ought to have been written upon this particular subject, possessing the good sense and discrimination of a Pott, and the lively imagination and boldness of John Bell. Considering the very slight directions which are given

us to lead our inquiries after deep seated matter, it is not strange that young surgeons and physicians meet with so many embarrassments, difficulties, and disappointments in this branch of practice. That such is the fact, the experience and observation of thirty years has taught me. If I can throw any additional light upon this point, I shall not regret this effort, nor the embarrassment which I feel in addressing you.

My method of detecting deep seated matter is by *the touch*—not by the fingers, but with the thumbs. In feeling for matter deeply seated, under large muscles, it is absolutely necessary that a considerably heavy pressure should be applied, when the quantity of matter is small. A light pressure will not produce the required result. This fact is an important one, and should be constantly borne in mind. The fingers, from their length, are not fitted to support a sufficient pressure for the purpose. The thumbs must be brought into action in order to sustain the necessary resistance, and they are sufficiently strong for this purpose. From their situation in the hand they can also be more firmly and steadily supported than the fingers, which is of great consequence in this examination. In examining a large limb your hands and fingers will naturally embrace both sides, and thus afford a fine and steady support to the thumbs when brought

upon the spot were you propose to feel for the matter.

In order to illustrate the truth of these remarks, I will suppose a case of common occurrence in business. Circumstances may lead you to suspect deep seated matter in the fore part of the thigh. On the spot where you intend to examine for matter, place your thumbs, steadily supported by your hands and fingers, placed on each side of the thigh. Having brought the thumbs nearly into contact with each other, (as Sir Astley Cooper recommends to bring the fingers) you will begin by pressing with them very gradually, gently and perpendicularly—by degrees increasing the pressure with both thumbs. Now let one thumb fall with considerable more pressure, the other remaining firm and stationary; now and then resuming the pressure with increased power. In the cases of which we are treating, viz. where the quantity of matter is *small and deep seated*, it will be proper to move your thumbs, from time to time, more apart, then approximating them, until you discover the fluid, which will be announced by a *gentle rising* under your stationary thumb. On discovering this feeling, you have positive assurance that there is matter under the point where the rising is felt. Some call this feeling a fluctuation or undulation. I have never experienced that sensation in the case of

small and deep seated collections. It is the *rising* alone under my thumb that I depend upon.

If you have any doubts existing of this distinct elevation, pass your thumbs off to a point at a little distance; there make the same examination in the same careful manner, and if in this place there is no matter, you will not perceive the rising, but the flesh will feel more solid, and unelastic. Then remove your thumbs, and, placing them in the same situation as at first, if you feel the same rising, the question is placed beyond all doubt. Fingers will not do this—thumbs will.

Having ascertained this fact, if you should be of opinion that good practice requires an opening, place your scalpel upon the spot, carry your incision down through the thick muscles, and even to the bone, unless you meet the enemy on the way. There you will find a cavity and a fluid, though there may not be more than a table-spoonful! This I have frequently seen in practice, and have never opened under such circumstances and been disappointed. My thumbs have never deceived me. When the operator has not possessed the confidence which the method I have attempted to describe will give, I have known him to commence an opening, and not finding matter, but muscles, to abandon the search—the matter subsequently finding its own way out, to the no small disappointment of the patient, and the faculty.

Having recommended strong pressure when the matter lies deep, the question may naturally arise, how can you use strong pressure where the parts are very tender? This is a difficulty, and a very embarrassing one to young practitioners. It may, however, be surmounted, sufficiently for *manual examination*; and this, such as I have endeavoured to describe it, is absolutely necessary to success; you cannot succeed without it.

I will adduce, for an instance, a patient twelve years old, who has suffered from a local swelling, and an inflammation of the thigh. The limb is sore; pain is occasioned by the slightest touch; and the patient has, by confinement, become restless and peevish. The general and local symptoms denote deep suppuration. The swelling is uniform around the limb. Suspicions arise that there may be matter in the interstices of the muscles, or on the bone. How shall we be able to detect matter by the touch? How can we apply a sufficiently heavy pressure, where the parts are so sensible of pain?

Begin very lightly, and rather carelessly, to apply your fingers to the limb, at a little distance from the sore part, passing them about from place to place as if in search of matter, but being cautious not to touch the sore parts, until the patient gets a little familiar with you, and finds that you do not hurt him. By this management he will get over

the alarm, and then you may advance slowly to the sore place, and you will soon be able to place your thumbs over the part where you may suspect the matter to lie. Wonderful as it may seem, it is nevertheless a fact that if the thumbs are kept steadily upon the spot, with gently increased pressure, the little patient will remain still, and without much complaint yield to a proper examination.

It is very important, when you are feeling for deep seated matter in small quantities, that the patient should be as still as possible. Only the agitation of the system which arises from crying out is an hindrance to the perfect feeling of the fluid. This fact I have often noticed. In very nice cases of detecting matter, I have thought I could feel the fluid with more accuracy, when a room was perfectly still, and no voice to be heard.

Another case of abscess, which frequently eludes the researches of the practitioner, is where a patient is attacked with pain and lameness in the upper part of the thigh, and with general inflammatory symptoms. The limb swells, and the complaint is pronounced rheumatism. Upon this diagnosis the patient is treated with the usual remedies for inflammatory rheumatism. A crisis is supposed to have taken place in three or four weeks, from the remission of general and local symptoms. The pain abates; the swelling is lessened; the appetite improves; and the patient is thought to be in a convalescent state.

At the expiration of three or four weeks more the swelling of the thigh is, perhaps, somewhat diminished, and no pain exists unless an attempt is made to move the limb. Although the appetite of the patient is pretty good, there is a wasting of flesh, and he has a hectic countenance. His friends and the physician now have fearful apprehensions of a decline, and a consultation is called. This is not an unfrequent case in my practice.

Upon general principles we might conclude that a solution had taken place. In this rather easy situation it had remained gradually undermining the health of the patient.

When he is introduced to us, and the limb is presented for examination, the swelling is uniform, and the skin of a natural appearance. The examination should be commenced by the touch, at each extremity of the thigh; and by approximating the hands slowly, and feeling with some firmness, and frequently asking the patient if he feels any soreness. Proceed in the same manner, and advance nearer to the centre, asking the same question, until he says that you hurt him. Continuing the pressure still further, you will find *a margin of tenderness*, which may be three or four inches in diameter. Here then is the spot to which your attention will be drawn. The parts not being very sensible, you can make the pressure required to feel the fluid. The first process of the examination

cannot be dispensed with, as you have at first no guide to the spot ; but having discovered this line of demarcation, which is seldom wanting in these cases, your attention is concentrated upon the small circle in which you feel. Now if the matter is in the deep interstices of the muscles, or even at the bone, and that in a small quantity, you will most assuredly discover it, by managing the thumbs as I have directed. The gentle elevation is felt with the stationary thumb, while you press firmly with the other, having all still around.

If it is determined to evacuate the matter, it would be well, if there is cause to believe that the quantity is small, to mark the point with ink before your thumbs are removed ; otherwise if you should remove your eyes and thumbs for a moment from the limb, and place the scalpel but a small distance from the spot where the elevation is designated, you might be led by the cavity, which would occasion great embarrassment and confusion. In such cases I always mark the centre of the spot in which the touch gives assurance of the presence of matter—I then proceed with coolness and determination, and as I before remarked, I have never been disappointed.

There is one circumstance which might prove a source of deception. On applying the thumbs over the belly of a single muscle, thinly covered with cellular substance, without considering its anatomi-

cal structure, you might mistake the sensation arising from a pressure of it for the rising of a fluid. If you fix them transversely to the fibres, the feeling so much resembles that of a fluid that, in some instances, there would be danger of deception. Attention to this hint will cause a distinction to be noticed. But if you place them longitudinally with the fibres of the muscles, and press perpendicularly, the sensation will not be experienced.

This subject of deep seated matter applies with almost equal importance to the whole class and variety of tumours. What tumour is there, presented to us for examination, which does not involve the question of its contents; and particularly, whether it contains a fluid or not? A correct decision of this question, in most cases, determines the character of the complaint. It constitutes the business of our profession to make that distinction, which is the only basis on which we can with confidence prescribe.

In a case of swollen scrotum, there may arise three questions—whether it be Hernia, Schirrus, or Hydrocele; for the external appearances may be very similar in all these complaints. There is no way of distinguishing these very different diseases except by the symptoms and *touch*. Suppose you decide that it is Hydrocele, when it is either Hernia or Schirrus, and pass a trocar into it—how unpleasant the mistake! I have more than once

been called to operate for Hernia, and upon examination discovered that the tumours contained pus. They were opened, and the patients did well.

One further observation will conclude these remarks. Within a few years three female patients have been sent to me for the extirpation of their breasts. On minute examination I found that the tumours contained a fluid. They were situated in the centre of the breast, and rather under the glands, which gave them a formidable appearance. On making an incision down to the tumours, they were found to be sacculated, and were healed in a few days by adhesive inflammation.

It would have been very unkind, through inattention to the true nature of the complaint, to have subjected these young ladies to painful operations; and what would have been more to be regretted, to have lost those useful and beautiful organs.